REMARKS

The second non-final Office Action (NFOA) issued February 25, 2010, has been carefully considered and these remarks are responsive thereto. Clarifying amendments have been made to the specification, where appropriate, to properly refer to a "frame" as depicted in FIG. 4; (what is depicted in FIG. 4 is not a packet).

In FIG. 4, data 37 represents, for example, 4 LCH packets 39 to conform to an "object of the invention" paragraph beginning at page 2, line 9 where an 802.11 frame is properly introduced, but then, the use of "frame" becomes confused with "packet."

A first inconsistency in the specification related to an 802.11 frame is in the brief description of FIG. 4 wherein the depicted "packet" is clearly a "frame." The inconsistency is also found in the specification where FIG. 4 is introduced at page 7, beginning at line 16. These inconsistencies are now corrected.

In particular, and referring to Fig. 4, there is shown a frame format for a media access control (MAC) 802.11 layer 2 frame in accordance with the invention in which a plurality of long channel packets are shown as data 37. Each long channel (LCH) packet has a format having a 12-bit header, 49.5-byte data and 4-byte CRC as shown. Referring to Fig. 5, there is shown the 49.5 bytes of data where 1.5 bytes comprise CL Tag and Useful data is at bytes 3-50. FIG. 5 represents the format of a segmentation and reassembly packet data unit (SAR-PDU) packet as constructed by the SAR module of the IEEE SSCS convergence layer 2. Fig. 6 is similar showing the same packet included in an LCH packet as used by the HiperLAN/2 DLC.

In the specification, beginning at "object of the invention" paragraph, page 2, beginning at line 9, the specification is further amended to clarify "layer 2" as now defined in the claims. The addition of "layer 2" into the specification does not comprise prohibited new matter as it is well known in the art that the media access control (MAC) layer of Fig. 4 is at layer 2 as is the convergence layer. Moreover, the introduction of "media access control (MAC)" to define MAC is obvious to one of ordinary skill in the art. Claims 1, 5, 6, 7 and 9 have been amended to clarify layer 2 of the recited first and second protocols. Claims 10 and 11 have been amended to correct a typographical error. Other claims have been amended to correct antecedent basis

errors. New claims 12 and 13 have been added and are supported by reference to the present application as published in accordance with U. S. Published Application 2009/0144470 of Perrot et al., at least at paragraphs [0007], [0022], and [0032] through [0035].

Status of the Claims

- Claims 1-13 are pending in the Application after entry of this amendment.

- Claims 1-11 are rejected by Examiner.

- Claims 1, 5-11 are currently amended and new claims 12 and 13 added.

The Jeon Reference

Applicants wish to thank the Examiner for providing a copy of the Jeon reference in English, which is entitled PTO 10-1067, Korean Article CHUN, translated by FLS, Inc. The reference as translated comprises 37 pages. For clarification purposes, Applicants assume that CHUN is an English language translation of the Korean "Jeon." The Examiner refers to Jeon. A Korean copy of Jeon was provided with the first non-final Office Action issued September 15, 2009.

Applicants, for the time being, rely on the present English translation provided by the Patent Office. However, Applicants wish to reserve their right to provide their own translation, for example, due to a number of what appear to be typographical inconsistencies or errors, for example, "Jeon" or "Chun" for the author's name. Applicants, for consistency with the Examiner, will continue to refer to Jeon. Others appear with [sic]. See, for example, Page 14, "January 2001" at line 10; page 26, "wirelss" at line 5, "HyperLNA/2" at line 6, "European Wirelss" at line 6, HieperLAN/2 at line 17, 139TA at line 21-22; and page 31, "starw" first line of first complete paragraph.

Claim Rejections Pursuant to 35 U.S.C. §103

At Page 3 of the NFOA, claims 1-5 and 7-9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Jeon ("1394 Broadband Wireless Home Network: Wireless 1394," Korea Telecom Journal (Information and Communication), No. 19 5, 2002.5 5, pages 63-78; hereinafter, "Jeon") in view of The ETSI IEEE 1394 SSCS (Author Unknown, "Broadband Radio Access Networks (BRAN); HIPERLAN Type 2; Packet based Convergence Layer; Part 3: IEEE 1394 Service Specific Convergence Layer (SSCS)" of ETSI TS 101 493-3, v1.2.1 (2001-12; hereinafter "ETSI," in view of Williams et al. (IEEE 802.11-01/164, slides, March 2001;

hereinafter, "Williams." Applicants respectfully traverse the rejection on the grounds that the Examiner has failed to establish a *prima facie* case of obviousness now that the claims have been amended to clarify layer 2 of the first and second protocols.

In his remarks, the Examiner states: "*Jeon* discloses a method of transmitting data over a wireless link, the method comprising inserting the data into packets according to a format corresponding to at least a certain layer or layers of a first protocol for data transmission, constructing a frame in accordance with a second protocol for data transmission over the wireless network and so on citing Jeon pages 29-32 and 34. The Examiner admits that Jeon fails to disclose the protocol adaptation layer (PAL) as the IEEE 1394 SSCS of the Hiperlan/2 protocol and relies on ESTI 1394 SSCS to make up the deficiency. At Page 5, the Examiner further relies on Williams and, moreover, cites *KSR* for legal support for the obviousness combination.

Claim Amendments

Claims 1, 5, 6, 7 and 9 have been amended for clarification as to the layers of the recited protocols. In particular, the layer of protocol is now specified. The frame, as introduced above and depicted in Figure 4, is constructed in accordance with MAC layer 2 of the second protocol and includes packets according to a format corresponding to layer 2 of the first protocol. The features in amended claims 1, 5, 6, 7 and 9 are supported by the specification, the frame shown in Figure 4 and, for example, on page 2, lines 9-19, page 8, line 16 through page 9, line 27: (for example, "Should one wish to dispatch this isochronous 1394 traffic over the wireless network according to the 802.11 protocol... blocks of 216 bytes.") This passage provides an example of construction of a frame (Figure 4) in accordance with MAC layer 2 of IEEE 802.11 protocol, that includes packets corresponding to layer 2 of HiperLAN. The amendments are also supported by the specification, for example, at page 9, lines 29 to page 10, line 8: (for example, "A variant implementation of the exemplary embodiment of the invention ... on the operation of the method.") This passage provides an example of construction of a frame in accordance with layer 2 of the IEEE 802.11 protocol, the frame (of Figure 4) including packets that correspond to output of a convergence (SSCS) layer of IEEE 1394 protocol for layer 2 of Hiperlan II.

Applicants' invention as claimed in claim 1 recites "a method of transmitting data over a wireless link, the method comprising:

inserting the data into packets according to a format corresponding to layer 2 of a first protocol for data transmission over the wireless network;

constructing a frame in accordance with layer 2 of a second protocol for data transmission over the wireless network, the second protocol being different from the first protocol, the frame comprising said packets; and

transmitting the constructed frame over the wireless network according to the second protocol."

Jeon discloses the use of a protocol adaptation layer (PAL) to convert IEEE 1394 SDUs, i.e. 1394 data packets, into IEEE 802.11 MSDUs, i.e. 802.11 data packets, for transmission over an 802.11 wireless network. Jeon discloses the conversion of data packets compatible with a *wired* protocol (1394) into data packets compatible with a *wireless* protocol (802.11) by using a protocol adaptation layer (PAL) for transmission of the 1394 data over the 802.11 network. Jeon does not disclose or suggest any construction of a frame in accordance with layer 2 of a second protocol for data transmission over the wireless network, different from the first protocol, said frame comprising packets according to a format corresponding to layer 2 of the first protocol. According to Jeon, the 802.11 frame is constructed directly from 1394 data by adding a LLC describing that 1394 data are transported in an 802.11 data stream. To the contrary of what is disclosed in Jeon, Applicants' claim 1 claims the construction of a frame according to layer 2 of a second wireless protocol (for example, per Figure 4), the frame including packets which are in accordance with layer 2 of a first wireless protocol. In Jeon, a frame is constructed according to a first wireless protocol by including 1394 packets, i.e. packets which are in accordance with a *wired* protocol and absolutely not in accordance with layer 2 of another wireless protocol different from the first wireless protocol.

ETSI IEEE 1394 SSCS discloses a convergence layer, which allows the transport of IEEE 1394 data packets in HiperLAN/2 packets, i.e. into packets compatible with a first wireless protocol (HiperLAN/2). Services of the convergence layer are used to obtain packets, called segmentation and reassembly packet data units (SAR PDU), raw or packaged in Long Channel (LCH) packets in the format used by the HiperLAN/2 Data Link Control (DLC). ETSI IEEE 1394 SSCS therefore does not disclose or suggest constructing a frame in accordance with layer 2 of a second protocol for data transmission over the wireless network, different from the first protocol, said frame comprising said packets (i.e. packets according to a format corresponding to

layer 2 of the first protocol), and transmission of said constructed frame over the wireless network according to the second protocol, which is contrary to what is claimed in Applicants' claim 1 as clarified.

The Examiner argues that the motive to combine the teachings of ETSI IEEE 1394 SSCS and Jeon is to allow the common use of a common conversion layer of Hiperlan 2 and IEEE 802.11 to reduce system complexity, as suggested by William et al. Applicants respectfully disagree.

Indeed, the solution for transporting data over a wireless link claimed in Applicants' claim 1 is more complex than the one disclosed in Jeon. Jeon discloses a way for inserting/converting 1394 data directly into an 802.11 frame for transmission over an 802.11 network by using a PAL, i.e. by adding a LLC comprising information indicating that 1394 packets are included in an 802.11 frame. There would be no reason for a person of ordinary skill in the art to combine the teaching of ETSI IEEE 1394 SSCS with the teaching of Jeon. For obtaining the same result, i.e. transporting 1394 data over 802.11, the person skilled in the art would not be inclined firstly to insert 1394 data into packets according to a first wireless protocol and then secondly to construct a frame according to the second wireless protocol, i.e. 802.11, from the packets, which are in accordance with the first wireless protocol. Such a process would be more complex for obtaining the same result as the one pass conversion (by using the PAL and LLC) disclosed in Jeon. Such a process would make no sense to the person skilled in the art, knowing Jeon.

Moreover, even if the person skilled in the art combines the teachings of ETSI IEEE 1394 SSCS and Jeon, that person would not obtain the invention as claimed in claim 1. To transport data over a wireless network according to a wireless protocol, the person skilled in the art, who would apply the teaching of ETSI IEEE 1394 SSCS to the teaching of Jeon, would obtain the following process: construction of a Hiperlan 2 packet from 1394 data by using the convergence layer disclosed in ETSI IEEE 1394 SSCS; then, as Jeon discloses how to insert 1394 data into packets according to 802.11 (and not use a Hiperlan 2 packet in an 802.11 frame), it is necessary to extract the 1394 data from the Hiperlan 2 packet (an inverse operation of that described in ETSI IEEE 1394 SSCS) for then constructing an 802.11 frame from the thus extracted 1394 data. In summary, the process is as follows: 1394 data => Hiperlan 2 packet => 1394 data => 802.11 packet. One does not obtain Applicants' invention as claimed in claim 1, i.e. construction of a

frame in accordance with layer 2 of a second wireless protocol by including packets according to a format corresponding to layer 2 of a first wireless protocol, said packet comprising data which is to be transmitted over a wireless link in accordance with the second wireless protocol.

In a similar way, by applying the teaching of Jeon to the teaching of ETSI IEEE 1394 SSCS, the person skilled in the art may obtain the following process: construction of an 802.11 packet from 1394 data by using the protocol adaptation layer (PAL) disclosed in Jeon; then, as ETSI IEEE 1394 SSCS discloses how to insert 1394 data into packets according to Hiperlan 2 (and not an 802.11 packet into a Hiperlan 2 frame), it is necessary to extract the 1394 data from the 802.11 packet (an inverse operation to that described in Jeon) for then constructing a Hiperlan 2 packet from the thus extracted 1394 data. In summary, the process would be as follows: 1394 data => 802.11 packet => 1394 data => Hiperlan 2 packet. One does not obtain Applicants' invention as claimed in claim 1 from such a method, i.e. construction of a frame in accordance with layer 2 of a second wireless protocol by including packets according to a format corresponding to layer 2 of a first wireless protocol, said packet comprising data for transmission over the wireless network in accordance with the second wireless protocol.

The combination of teachings of ETSI IEEE 1394 SSCS and Jeon does not lead to the use of two different wireless protocols for transporting data over the second wireless protocol, contrary to what is claimed in amended claim 1.

Applicants note that amended independent Claim 7 contains distinctive aspects similar to that of pending Claim 1. Applicants respectfully submit that Jeon, ETSI IEEE 1394 SSCS and Williams, considered either alone or considered in combination, fail to teach or suggest the features of amended independent Claims 1 and 7.

Applicants respectfully submit that pending independent Claims 1 and 7, as amended, are thus not rendered obvious under 35 USC §103(a) because all elements of the pending claims are not found in the cited art. Also, dependent claims 2-5 and 8-9 are not rendered obvious because they depend on non-obvious independent Claims 1 and 7. Applicants respectfully request reconsideration of the 35 U.S.C. §103(a) rejection of pending Claims 1-5 and 7-9 based on the remarks above.

Claim Rejections Pursuant to 35 U.S.C. §103 (Claims 6 and 11)

Claims 6 and 11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Jeon et al. in view of the ETSI IEEE 1394 SSCS in view of Williams et al in further view of Kitchin et al. (US Pre Grant Publication No. 2003/0037169 A1, Kitchin). Applicants respectfully traverse the rejection.

The teachings of Jeon, ETSI IEEE 1394 SSCS and Williams are discussed above.

However, Kitchin, like Jeon, ETSI IEEE 1394 SSCS and Williams, fails to discuss the construction of a frame in accordance with layer 2 of a second protocol for data transmission over the wireless network, different from the first protocol, said frame comprising said packets, which are in accordance with a format corresponding to layer 2 of the first protocol, as is recited in pending independent Claim 1 upon which claims 6 and 11 depend.

Since independent Claim 1, as amended, is not rendered obvious by the combination of Jeon, ETSI IEEE 1394 and Williams, and Kitchin because all elements of independent Claim 1 are not taught or suggested by the combination, then dependent claims 6 and 11 are likewise rendered non obvious under 35 U.S.C §103(a). Applicants respectfully request reconsideration of the 35 U.S.C. §103(a) rejection of pending claims 6 and 11.

Moreover, claim 11/6/1, as supported by paragraph [0037], is directed to first and second MAC addresses "a first address at an IEEE 802.11 driver level and a second address created by repeating IEEE 802.11 authentication and association phases" not shown or suggested by the art of record.

Claim Rejections Pursuant to 35 U.S.C. §103 (Claim 10)

Claim 10 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Jeon et al. in view of the ETSI IEEE 1394 SSCS in view of Williams et al in further view of Perlman. Applicants respectfully traverse the rejection.

The teachings of Jeon, ETSI IEEE 1394 SSCS and Williams are discussed above.

However, Perlman, like Jeon, ETSI IEEE 1394 SSCS and Williams, fails to discuss the construction of a frame in accordance with layer 2 of a second protocol for data transmission over the wireless network, different from the first protocol, said frame comprising said packets,

which are in accordance with a format corresponding to layer 2 of the first protocol, as is recited in pending independent Claim 1 as amended upon which claim 10 depends.

Since independent Claim 1 as amended is not rendered obvious by the combination of Jeon, ETSI IEEE 1394 and Williams, and Perlman because all elements of independent Claim 1 are not taught or suggested by the combination, then dependent claim 10 is patentable for the same reasons and so rendered non obvious under 35 U.S.C §103(a). Applicants respectfully request reconsideration of the 35 U.S.C. §103(a) rejection of pending claim 10.

New Claims 12 and 13

These claims have been added to further clarify the present method and apparatus. Method claim 12/3/2/1 further recites "the first HyperLAN/2 protocol convergence layer 2 obtaining the packets as segmentation and reassembly packet data units." See paragraph [0007] as amended: "The services of the convergence layer 2 will be used to obtain the packets, called SAR PDU (Segmentation and Re-assembly Packet Data Unit) in the standard, raw or packaged in an LCH (Long Channel) packet in the format used by the Hyperlan/2/DLC (Data Link Control)." For claim 13, the module that performs the construction is a SAR module per FIG. 5 – "FIG. 5 represents the format of an SAR-PDU packet as constructed by the SAR module of the IEEE 1394 SSCS convergence layer." These features are not shown or suggested by the prior art of record.

Conclusion

Applicants respectfully submit that the amended pending claims 1-11 and new claims 12-13 patentably define over the cited art and respectfully requests reconsideration and withdrawal of the rejections of all pending claims based on the arguments presented herein.

Our Washington DC counsel, Thomas Jackson, Registration No. 29808, has been authorized to request a telephonic or personal interview to further discuss allowability of the present application and pending claims 1-13. Should the Examiner have any questions on this request, the Examiner is urged to contact the undersigned attorney of record at the telephone number and address given.

The Office is authorized to charge any fees found to be due to our deposit account 07-0832. In the event any additional fee or a refund is due, the Office is authorized to debit/credit our deposit account accordingly.

Respectfully submitted,
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